

Chas

**BRIEF
PASSENGER
CAR
DATA**
—1951—



ETHYL CORPORATION



BRIEF PASSENGER CAR DATA

1951

ETHYL CORPORATION

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NOTICE

The specifications and adjustments contained in this booklet have been compiled by the Technical Service Division of the Research Laboratories of the Ethyl Corporation from information supplied by manufacturers of motor cars, ignition apparatus, spark plugs, etc. None of this information represents the results of tests at the Research Laboratories of the Ethyl Corporation.

This information covers the essential characteristics, in ready reference form, of the 1951 passenger car models. It is correct at date of publication, but changes may be made from time to time by motor car manufacturers.

Data on horsepower, torque, compression pressure, etc., are that given by the manufacturer. Methods and technique of testing differ in various engineering departments, so these data are frequently not comparable for different makes of cars.

GENERAL NOTES

Valves

Valve tappet clearances are extremely important. Frequent checking of valve tappet clearances will add materially to the proper functioning and long life of valves. Clearances given on the specification sheets are for normal driving conditions. For heavy duty, such as heavy loads or high speed, it may be desirable to give additional clearance.

Spark Plugs

The spark plug installed and recommended by the factory is shown first in the specifications with the corresponding AC, Auto-Lite or Champion spark plug shown as an alternate. These plugs are designed for average driving conditions. For heavy duty, high speed or long distance driving, it may be necessary to use a colder plug in order to obtain satisfactory spark plug life. The necessity for a colder plug is indicated by rapid electrode wear, blistering of the insulator tip, a very light colored deposit and, in extreme cases, splitting and cracking away of the insulator.

It will seldom be found necessary to change to a plug which is hotter than the factory equipment plug, although very light service may require such a plug. If an engine is not pumping oil and the ignition system is in good shape but the spark plug consistently fouls with excessive carbon deposit — the need for a hotter plug is indicated.

Periodic cleaning of spark plugs by means of an efficient spark plug cleaner is often advantageous.

Spark plug gaps should be set and maintained at factory setting—pitted points should be cleaned and, if badly pitted, replaced. Incorrectly set breaker points will affect ignition timing.

Ignition Timing

Ignition timing is given in crankshaft degrees and is factory setting. Almost all distributors are provided with some type of calibration enabling the ignition timing to be reset without disturbing the initial distributor setting. Retarded ignition timing will eliminate or reduce detonation but will result in decreased performance and fuel economy. Also, in most cases, an ignition setting somewhat in advance of the factory setting will result in additional performance and economy, although such an ignition setting will require a fuel of higher antiknock value than the standard setting.

Carburetors

Carburetors should not be adjusted or jets changed except by qualified mechanics. Correct fuel (or float) levels are extremely important to satisfactory performance and fuel economy — factory specifications should be strictly maintained.

LIST OF ABBREVIATIONS

| | |
|------------------|---|
| AA | Aluminum Alloy (cylinder heads & pistons) |
| AC | AC Spark Plug Division, GMC |
| Adv | Advance |
| AI | Aluminum Industries (valves) |
| AL | The Electric Auto-Lite Company |
| AMA | Automobile Manufacturers Association |
| ATC | After Top Center |
| Auto Adj | Automatic Adjusters |
| BTC | Before Top Center |
| Bmep | Brake mean effective pressure |
| C | Cold (valve adjustment) |
| Car | Carter (carburetors) |
| Centrif | Centrifugal |
| Champ | Champion Spark Plug Company |
| Clr | Clearance |
| CNA | Chrome Nickel Alloy Iron |
| Comp Press | Compression Pressure |
| Cr Sp | Cranking Speed |
| DD | Downdraft |
| Deg | Degrees |
| Dup | Duplex |
| Eaton | Eaton Mfg. Company (valves) |
| Eng | Engine |
| Eqpt | Equipment |
| Exh | Exhaust |
| F | F-head |
| H | Hot (valve adjustment) |
| HP | Horsepower |
| Hyp | Hypoid (rear axle gearing) |
| I | In-head (overhead valves) |
| Int | Intake |
| L | L-head |
| Max | Maximum |
| No. Cyl | Number of cylinders |
| OD | Overdrive |
| Recm Press | Recommended Pressure (tires) |
| Rich | Rich Manufacturing Company (valves) |
| RP | Rochester Products (carburetors) |
| SB | Spiral Bevel |
| Sil | Silchrome |
| Sgl | Single |
| Std | Standard |
| Strom | Stromberg Carburetor Company |
| TDC | Top Dead Center |
| TP | Thompson Products, Inc. (valves) |
| Trans | Transmission |
| Vac | Vacuum |

SUMMARY OF CHARACTERISTICS

1951 PASSENGER CARS

| | 1950 | 1951 | Change |
|---|-------|-------|--------|
| Number of Makes..... | 20 | 21 | +1 |
| Number of Models..... | 64 | 62 | -2 |
| ENGINE CHARACTERISTICS: | | | |
| Average Standard Compression Ratio..... | 7.03 | 7.07 | +0.04 |
| Average Optional Higher Compression Ratio... | 7.40 | 7.59 | +0.19 |
| No. of Optional Higher Compression Ratios.... | 18 | 18 | — |
| Highest Std CR (Crosley, 1951) | 8.00 | 8.00 | — |
| (Crosley, 1950) | | | |
| Lowest Std CR (Willys-Jeep, 1951) | 6.48 | 6.48 | — |
| (Willys-Jeep, 1950) | | | |
| Highest Optional CR (Crosley, 1951) | 7.90 | 10.00 | +2.10 |
| (Willys 4-73, 1950) | | | |
| Average Displacement | 245.3 | 247.7 | +2.4 |
| Average Maximum Brake Horsepower..... | 110.9 | 116.2 | +5.3 |
| Average rpm at Maximum Horsepower..... | 3681 | 3745 | +64 |
| Average Horsepower per cubic inch..... | .452 | .471 | +0.019 |
| Average Brake mean effective pressure, lb/sq in | 122.9 | 125.0 | +2.1 |
| Maximum Horsepower per cubic inch..... | .603 | .580 | -.023 |
| Lowest Horsepower per cubic inch..... | 0.38 | .401 | +.021 |
| Average lb/HP—5 passenger sedan..... | 31.6 | 30.35 | -1.25 |
| Rated Horsepower with Std CR: | | | |
| Under 75 | 4 | 5 | +1 |
| 75-99 | 14 | 14 | — |
| 100-149 | 38 | 30 | -8 |
| 150-199 | 8 | 13 | +5 |
| Piston Materials: | | | |
| Aluminum Alloy | 56 | 54 | -2 |
| Cast Iron or Steel Alloy..... | 8 | 8 | — |
| | 64 | 62 | |

BUICK

| CAR MODEL | Series 40 Synchromesh | Series 40 Dynaflow |
|---|--------------------------------------|--|
| ENGINE | | |
| No. Cyl-Head Type..... | 8-1 | 8-1 |
| Bore & Stroke (in)..... | 3-3/16x4-1/8 | 3-3/16x4-1/8 |
| Displacement (cu in)..... | 263.3 | 263.3 |
| AMA Horsepower..... | 32.51 | 32.51 |
| Max Horsepower @ rpm..... | 120 @ 3600 | 128 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 217 @ 2000 | 225 @ 2000 |
| Max bmep, lb/sq in..... | 124.3 | 129.0 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 6.60 | 7.20 |
| Comp Press, lb/sq in @ rpm..... | 114 @ 90 | 120 @ 90 |
| Piston Material..... | AA | AA |
| Bearing Material..... | Steel Backed Durex | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AC 46X | AC 46X |
| Alternate..... | | Champ J-12, AL A9 |
| Spark Plug Gap..... | .025" | .025" |
| Breaker Gap..... | .015" | .015" |
| Cam Angle..... | | |
| Firing Order..... | 1-6-2-5-8-3-7-4 | 1-6-2-5-8-3-7-4 |
| Timing—Crankshaft Degrees.... | 4° BTC | 4° BTC |
| Adv Deg—Centrif—Vac..... | 24-11 | 24-11 |
| Adv Begins—Ends—Eng rpm ... | 400-3000 | 400-3000 |
| VALVES | | |
| Make & Material..... | Int Exh | TP or Eaton or Rich 3140 TP or Eaton or Rich XCR or 2112N |
| Tappet Clr—Seat Angle..... | Int .015" H, 45° Exh .015" H, 45° | Hydraulic Lifters, 45° Hydraulic Lifters, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | (1) | (1) |
| Size, Type..... | 1-1/8" Dual DD | 1-1/8" Dual DD |
| Float Level..... | (2) | (2) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | | See Buick Instruction Book |
| Normal Oil Press—lb @ mph.... | 35 @ 35 | 35 @ 35 |
| Oil Filter—Make..... | AC | AC |
| CAPACITY | | |
| Oil.....(qt) | 5-1/2 (3) | 5-1/2 (3) |
| Water.....(qt) | 12 (4) | 13-1/2 (4) |
| Transmission.....(pt) | 1-3/8 | (5) |
| Rear Axle.....(pt) | 4 | 4 |
| Gasoline.....(gal) | 19 | 19 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 121-1/2 | 121-1/2 |
| Over-all Lgth Incl Bumpers. (in) | 204-3/4 | 204-3/4 |
| Shipping Weight.....(lb) | 3605 | 3703 |
| Tire Size—Recm Press.....(lb) | 7.60x15-24-24 | 7.60x15-24-24 |
| Rear Axle Ratio—Type..... | 3.9 (6) | 3.6 (7) |
| LOCATION CHASSIS SERIAL NO. Inside Left Front Windshield Pillar Post | | |

- (1) Stromberg AAUVB-267 or Carter WCD-725-SA.
- (2) Upon removal of sight plug with engine idling, fuel level should be just high enough to wet threads at lower side of inspection hole.
- (3) Add 1½ quarts for dry oil filter.
- (4) Add 1½ quarts for heater.
- (5) Dynaflow requires 8½ quarts for refill—plus 1¼ pints if completely dry.
- (6) 3.6 optional.
- (7) 3.9 optional.

| CAR MODEL | Series 50 Synchromesh | Series 50 Dynaflow | Series 70 Dynaflow |
|---|--------------------------|--|-----------------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 8-1 | 8-1 | 8-1 |
| Bore & Stroke (in)..... | 3-3/16x4-3/8 | 3-3/16x4-3/8 | 3-7/16x4-5/16 |
| Displacement (cu in)..... | 263.3 | 263.3 | 320.2 |
| AMA Horsepower..... | 32.51 | 32.51 | 37.81 |
| Max Horsepower @ rpm..... | 124 @ 3600 | 128 @ 3600 | 152 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 220 @ 2000 | 225 @ 2000 | 280 @ 2000 |
| Max bmep, lb/sq in..... | 126.2 | 129.0 | 131.8 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 6.90 | 7.20 | 7.20 |
| Comp Press, lb/sq in @ rpm..... | 118 @ 90 | 120 @ 90 | 120 @ 90 |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Durex | |
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | AC 46X | AC 46X | AC 46X |
| Alternate..... | | Champ J-12, AL | A9 |
| Spark Plug Gap..... | .025" | .025" | .025" |
| Breaker Gap..... | .015" | .015" | .015" |
| Cam Angle..... | | | |
| Firing Order..... | | 1-6-2-5-8-3-7-4 | |
| Timing—Crankshaft Degrees..... | 4° BTC | 4° BTC | 6° BTC |
| Adv Deg—Centrif—Vac..... | 24-11 | 24-11 | 24-11 |
| Adv Begins—Ends—Eng rpm..... | 400-3000 | 400-3000 | 400-3000 |
| VALVES | | | |
| Make & Material..... | Int Exh | TP or Eaton or Rich 3140 TP or Eaton or Rich XCR or 2112N | |
| Tappet Clr—Seat Angle..... | Int Exh | Hydraulic Lifters, 45° Hydraulic Lifters, 45° | |
| Exhaust Seat Inserts..... | None | None | None |
| CARBURETOR | | | |
| Make, Model..... | (1) | (1) | (2) |
| Size, Type..... | 1-1/8" Dual DD | 1-1/8" Dual DD | 1-1/4" Dual DD |
| Float Level..... | (3) | (3) | (3) |
| Choke Control..... | Automatic | Automatic | Automatic |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE..... | | See Buick Instruction Book | |
| Normal Oil Press—lb @ mph..... | 35 @ 35 | 35 @ 35 | 35 @ 35 |
| Oil Filter—Make..... | AC | AC | AC |
| CAPACITY | | | |
| Oil.....(qt) | 5-1/2 (4) | 5-1/2 (4) | 7 (4) |
| Water.....(qt) | 12 (5) | 13-1/2 (5) | 18 (5) |
| Transmission.....(pt) | 1-3/8 | (6) | (7) |
| Rear Axle.....(pt) | 4 | 4 | 4 |
| Gasoline.....(gal) | 19 | 19 | 19 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 121-1/2 | 121-1/2 | 126-1/4 |
| Over-all Lgth Incl Bumpers.....(in) | 206-1/4 | 206-1/4 | 211 |
| Shipping Weight.....(lb) | 3755 | 3853 | 4240 |
| Tire Size—Recm Press.....(lb) | 7.60x15-24-24 | 7.60x15-24-24 | 8.00x15-24-24 |
| Rear Axle Ratio—Type..... | 3.9 (8) | 3.6 (9) | 3.9 (8) |
| LOCATION CHASSIS SERIAL NO. Inside Left Front Windshield Pillar Post | | | |
| (1) Stromberg AAUVB-267 or Carter WCD-725-SA. | | | |
| (2) Stromberg AAVB-267 or Carter WCD-726-SA. | | | |
| (3) Upon removal of sight plug with engine idling, fuel level should be just high enough to wet threads at lower side of inspection hole. | | | |
| (4) Add 1½ quarts for dry oil filter. | | | |
| (5) Add 1½ quarts for heater. | | | |
| (6) Dynaflow requires 8½ quarts for refill—plus 1¾ pints if completely dry. | | | |
| (7) Dynaflow requires 10 quarts for refill—plus 1¾ pints if completely dry. | | | |
| (8) 3.6 optional. | | | |
| (9) 3.9 optional. | | | |

CADILLAC

| CAR MODEL | 61 | 62 |
|---|----------------------------------|--------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | V-8-I | V-8-I |
| Bore & Stroke (in)..... | 3-13/16x3-5/8 | 3-13/16x3-5/8 |
| Displacement (cu in)..... | 331 | 331 |
| AMA Horsepower..... | 46.5 | 46.5 |
| Max Horsepower @ rpm..... | 160 @ 3800 | 160 @ 3800 |
| Max Torque, lb-ft @ rpm..... | 312 @ 1800 | 312 @ 1800 |
| Max bmep, lb/sq in..... | 142.0 | 142.0 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.5 | 7.5 |
| Comp Press, lb/sq in @ rpm..... | 194 @ 1000 | 194 @ 1000 |
| Piston Material..... | AA | AA |
| Bearing Material..... | | Steel Backed Durex |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AC 48-X | AC 48-X |
| Alternate..... | | Champ J-11, AL A9 |
| Spark Plug Gap..... | .035" | .035" |
| Breaker Gap..... | .013" to .018" | .013" to .018" |
| Cam Angle..... | 31° ± 1-1/2° | 31° ± 1-1/2° |
| Firing Order..... | 1-8-4-3-6-5-7-2 | 1-8-4-3-6-5-7-2 |
| Timing—Crankshaft Degrees.... | 5° BTC | 5° BTC |
| Adv Deg—Centrif—Vac..... | 30-20 | 30-20 |
| Adv Begins—Ends—Eng rpm ... | 600-3600 | 600-3600 |
| VALVES | | |
| Make & Material..... | Int Rich 3140 | Rich 3140 |
| | Exh Rich N82120 | Rich N82120 |
| Tappet Clr—Seat Angle..... | Int Automatic Adjusters, 44° | Automatic Adjusters, 44° |
| | Exh Automatic Adjusters, 44° | |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Rochester BB or Carter WCD-845-S | |
| Size, Type..... | 1-1/4" Dual DD | 1-1/4" Dual DD |
| Float Level..... | (1) | (1) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | See Cadillac Instruction Book | |
| Normal Oil Press—lb @ mph.... | 28 @ 30 | 28 @ 30 |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil..... | (qt) 5 | 5 |
| Water..... | (qt) 18 (2) | 18 (2) |
| Transmission..... | (pt) 3-3/4 (3) | (4) |
| Rear Axle..... | (pt) 5 | 5 |
| Gasoline..... | (gal) 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase..... | (in) 122 | 126 |
| Over-all Lgth Incl Bumpers. (in) | 211-1/2 | 215-1/2 |
| Shipping Weight..... | (lb) 3839 (5) | 3983 |
| Tire Size—Recm Press..... | (lb) 7.60x15-24-24 | 8.00x15-24-24 |
| Rear Axle Ratio—Type..... | 3.36 | 3.36 |

LOCATION CHASSIS SERIAL NO. Right Frame Sidebar, Behind Engine Bracket

- (1) Carter WCD-845-S—11/64" measured between machined surface of float chamber cover and nearest point on float. Information covering Rochester not available at time this booklet went to press.
- (2) One quart additional for heater.
- (3) 2-1/2 pints for refill. Hydra-Matic requires 10-1/2 quarts for refill, 12 quarts dry.
- (4) Hydra-Matic requires 10-1/2 quarts for refill, 12 quarts dry.
- (5) Add 78 pounds when equipped with Hydra-Matic.

| CAR MODEL | 60 | 75 |
|---|----------------------------------|--------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | V-8-I | V-8-I |
| Bore & Stroke (in)..... | 3-13/16x3-5/8 | 3-13/16x3-5/8 |
| Displacement (cu in)..... | 331 | 331 |
| AMA Horsepower..... | 46.5 | 46.5 |
| Max Horsepower @ rpm..... | 160 @ 3800 | 160 @ 3800 |
| Max Torque, lb-ft @ rpm..... | 312 @ 1800 | 312 @ 1800 |
| Max bmep, lb/sq in..... | 142.0 | 142.0 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.5 | 7.5 |
| Comp Press, lb/sq in @ rpm..... | 194 @ 1000 | 194 @ 1000 |
| Piston Material..... | AA | AA |
| Bearing Material..... | | Steel Backed Durex |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AC 48-X | AC 48-X |
| Alternate..... | | Champ J-11, AL A9 |
| Spark Plug Gap..... | .035" | .035" |
| Breaker Gap..... | .013" to .018" | .013" to .018" |
| Cam Angle..... | 31° ± 1-1/2° | 31° ± 1-1/2° |
| Firing Order..... | 1-8-4-3-6-5-7-2 | 1-8-4-3-6-5-7-2 |
| Timing—Crankshaft Degrees..... | 5° BTC | 5° BTC |
| Adv Deg—Centrif—Vac..... | 30-20 | 30-20 |
| Adv Begins—Ends—Eng rpm ... | 600-3600 | 600-3600 |
| VALVES | | |
| Make & Material..... | Int Rich 3140 | Rich 3140 |
| | Exh Rich N82120 | Rich N82120 |
| Tappet Clr—Seat Angle..... | Int Automatic Adjusters, 44° | Automatic Adjusters, 44° |
| | Exh Automatic Adjusters, 44° | Automatic Adjusters, 44° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Rochester BB or Carter WCD-845-S | |
| Size, Type..... | 1-1/4" Dual DD | 1-1/4" Dual DD |
| Float Level..... | (1) | (1) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | See Cadillac Instruction Book | |
| Normal Oil Press—lb @ mph.... | 28 @ 30 | 28 @ 30 |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil.....(qt) | 5 | 5 |
| Water.....(qt) | 18 (2) | 18 (2) |
| Transmission.....(pt) | (3) | 3-3/4 (4) |
| Rear Axle.....(pt) | 5 | 5 |
| Gasoline.....(gal) | 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 130 | 146-3/4 |
| Over-all Lgth Incl Bumpers. (in) | 224-1/2 | 236-1/4 |
| Shipping Weight.....(lb) | 4155 | 4622 (5) |
| Tire Size—Recm Press.....(lb) | 8.00x15-24-24 | 8.20x15-28-28 |
| Rear Axle Ratio—Type..... | 3.36 | 4.27 (6) |

LOCATION CHASSIS SERIAL NO. Right Frame Sidebar. Behind Engine Bracket

- (1) Carter WCD-845-S—11/64" measured between machined surface of float chamber cover and nearest point on float. Information covering Rochester not available at time this booklet went to press.
- (2) One quart additional for heater.
- (3) Hydra-Matic requires 10-1/2 quarts for refill, 12 quarts dry.
- (4) 2-1/2 pints for refill. Hydra-Matic requires 10-1/2 quarts for refill, 12 quarts dry.
- (5) Add 78 pounds when equipped with Hydra-Matic.
- (6) 3.77 when equipped with Hydra-Matic.

CHRYSLER

| CAR MODEL | Windsor C-51 | New Yorker C-52 |
|--|--|--------------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-L | V-8-I |
| Bore & Stroke (in)..... | 3-7/16x4-1/2 | 3-13/16x3-5/8 |
| Displacement (cu in)..... | 250.6 | 331.1 |
| AMA Horsepower..... | 28.36 | 46.5 |
| Max Horsepower @ rpm..... | 116 @ 3600 | 180 @ 4000 |
| Max Torque, lb-ft @ rpm..... | 208 @ 1600 | 312 @ 2000 |
| Max bmepl. lb/sq in..... | 125.0 | 142.0 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.00 | 7.5 |
| Comp Press, lb/sq in @ rpm.... | 120 to 150 @ 150 | 135 to 165 @ 150 |
| Piston Material..... | AA | AA |
| Bearing Material..... | Steel Backed Babbitt | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AL AR8 | AL 4S-165 |
| Alternate..... | AC 46-5, Champ J-8 | |
| Spark Plug Gap..... | .035" | .035" |
| Breaker Gap..... | .020" | .015" to .018" |
| Cam Angle..... | 34-1/2° to 38° | 34° to 36° (1) |
| Firing Order..... | 1-5-3-6-2-4 | 1-8-4-3-6-5-7-2 |
| Timing—Crankshaft Degrees.... | 2° BTC | TDC |
| Adv Deg—Centrif—Vac..... | 22-20 | 29-25 |
| Adv Begins—Ends—Eng rpm.... | 700-2850 | 700-3400 |
| VALVES | | |
| Make & Material..... | Int Silicon-Chromium Steel Exh Silicon-Chromium Steel | |
| Tappet Clr—Seat Angle..... | Int .008" H, 45° Exh .010" H, 45° | Auto Adj. 45° Auto Adj. 45° |
| Exhaust Seat Inserts..... | Yes | Yes |
| CARBURETOR | | |
| Make, Model..... | Ball & Ball (Car) | Carter WCD-8305 |
| Size, Type..... | 1-1/2" Sgl DD | 1-1/4" Dual DD |
| Float Level..... | 5/64" (2) | 11/64" (3) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE.... | See Chrysler Instruction Book | |
| Normal Oil Press—lb @ mph.... | 40 to 50 @ 20 | 55 to 65 @ 20 |
| Oil Filter—Make..... | MoPar | MoPar |
| CAPACITY | | |
| Oil.....(qt) | 5 | 5 |
| Water.....(qt) | 15 | 25 |
| Transmission.....(pt) | 2-3/4 (4) | 3 (5) |
| Rear Axle.....(pt) | 3-1/4 | 3-1/2 |
| Gasoline.....(gal) | 17 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 125-1/2 | 131-1/2 |
| Over-all Lgth Incl Bumpers (in) | 207-1/4 | 213-1/4 |
| Shipping Weight.....(lb) | 3665 | 4260 |
| Tire Size—Recm Press.....(lb) | 7.60x15-24-24 | 8.20x15-24-24 |
| Rear Axle Ratio—Type..... | 3.9 | 3.73 (6) |
| LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post | | |

- (1) Two-breaker distributor; 27-1/2° to 30° dwell for each breaker.
- (2) From top of float chamber to top of float.
- (3) Between machined surface of float chamber cover and nearest point on float.
- (4) 3 pints refill when equipped with the "Fluid-Matic" drive.
- (5) If equipped with torque converter, torque converter unit capacity 10-1/2 qts.
- (6) 3.54 when equipped with torque converter.

CHRYSLER

| CAR MODEL | Imperial C-54 | Crown Imperial C-53 |
|---|-------------------------------|--|
| ENGINE | | |
| No. Cyl-Head Type..... | V-8-I | V-8-I |
| Bore & Stroke (in)..... | 3-13/16x3-5/8 | 3-13/16x3-5/8 |
| Displacement (cu in)..... | 331.1 | 331.1 |
| AMA Horsepower..... | 46.5 | 46.5 |
| Max Horsepower @ rpm..... | 180 @ 4000 | 180 @ 4000 |
| Max Torque, lb-ft @ rpm..... | 312 @ 2000 | 312 @ 2000 |
| Max bmep, lb/sq in..... | 142.0 | 142.0 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.5 | 7.5 |
| Comp Press, lb/sq in @ rpm.... | 135 to 165 @ 150 | 135 to 165 @ 150 |
| Piston Material..... | AA | AA |
| Bearing Material..... | Steel Backed Babbitt | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AL 4S-165 | AL 4S-165 |
| Alternate..... | | |
| Spark Plug Gap..... | .035" | .035" |
| Breaker Gap..... | .015" to .018" | .015" to .018" |
| Cam Angle..... | 34° to 36° (1) | 34° to 36° (1) |
| Firing Order..... | 1-8-4-3-6-5-7-2 | 1-8-4-3-6-5-7-2 |
| Timing—Crankshaft Degrees.... | TDC | TDC |
| Adv Deg—Centrif—Vac..... | 29-25 | 29-25 |
| Adv Begins—Ends—Eng rpm.... | 700-3400 | 700-3400 |
| VALVES | | |
| Make & Material..... | Int Exh | Silicon-Chromium Steel Silicon-Chromium Steel |
| Tappet Clr—Seat Angle..... | Int Exh | Automatic Adjusters—45° Automatic Adjusters—45° |
| Exhaust Seat Inserts..... | Yes | Yes |
| CARBURETOR | | |
| Make, Model..... | Carter WCD-8305 | Carter WCD-8305 |
| Size, Type..... | 1-1 4" Dual DD | 1-1 4" Dual DD |
| Float Level..... | 11/64" (2) | 11/64" (2) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE.... | See Chrysler Instruction Book | |
| Normal Oil Press—lb @ mph.... | 55 to 65 @ 20 | 55 to 65 @ 20 |
| Oil Filter—Make..... | MoPar | MoPar |
| CAPACITY | | |
| Oil.....(qt) | 5 | 5 |
| Water.....(qt) | 25 | 25 |
| Transmission.....(pt) | 3 (3) | 3 (4) |
| Rear Axle.....(pt) | 3-1/2 | 5 |
| Gasoline.....(gal) | 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 131-1/2 | 145-1/2 |
| Over-all Lgth Incl Bumpers. (in) | 212-5/8 | 229-1/2 |
| Shipping Weight.....(lb) | 4350 | (5) |
| Tire Size—Recm Press.....(lb) | 8.20x15-24-24 | 8.90x15-24-24 |
| Rear Axle Ratio—Type..... | 3.73 (6) | 3.54 |

- LOCATION CHASSIS SERIAL NO.** Left Front Door Body Hinge Post
- (1) Two-breaker distributor: 27½° to 30° dwell for each breaker.
 - (2) Between machined surface of float chamber cover and nearest point on float.
 - (3) If equipped with torque converter, torque converter unit capacity 10½ qts.
 - (4) Torque converter capacity 10½ quarts.
 - (5) Not available on date this booklet went to press.
 - (6) 3.54 when equipped with torque converter.

CHEVROLET

| CAR MODEL | Special & Deluxe Styleline & Fleetline SYNCHROMESH | Deluxe Styleline & Fleetline POWERGLIDE |
|---|---|--|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-1 | 6-1 |
| Bore & Stroke (in)..... | 3-1/2x3-3/4 | 3-9/16x3-15/16 |
| Displacement (cu in)..... | 216.5 | 235.5 |
| AMA Horsepower..... | 29.4 | 30.4 |
| Max Horsepower @ rpm..... | 92 @ 3400 | 105 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 176 @ 1000-2000 | 193 @ 1100-2200 |
| Max bmep, lb/sq in..... | 122.5 | 123.8 |
| Head Material..... | Cast Alloy Iron | Cast Alloy Iron |
| Compression Ratio..... | 6.6 (1) | 6.7 (1) |
| Comp Press, lb/sq in @ rpm..... | 110 @ 125 (engine hot) | |
| Piston Material..... | Cast Alloy Iron | Cast Alloy Iron |
| Bearing Material (main)..... | Steel-Backed Thin Wall Babbitt | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AC 46-5 | AC 46-5 |
| Alternate..... | (2) | (2) |
| Spark Plug Gap..... | .035" | .035" |
| Breaker Gap..... | .018" to .024" | .018" to .024" |
| Cam Angle..... | 34° | 34° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees.... | 5° BTC | 5° BTC |
| Adv Deg—Centrif—Vac..... | 32.5 to 39.5-20 | 29 to 33-20 |
| Adv Begins—Ends—Eng rpm.... | 650-3450 | 600-3700 |
| VALVES | | |
| Make & Material..... | Int Silichrome or Nickel Chrome Steel | Silichrome Steel |
| | Exh Silichrome Steel | Silichrome Steel |
| Tappet Ctr—Seat Angle..... | Int .006" H, 30° | Auto Adj, 30° |
| | Exh .013" H, 45° | Auto Adj, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | RP 7003152 | RP 7003160 |
| Size, Type..... | 1-7/32" Sgl DD | 1-11/32" Sgl DD |
| Float Level..... | 1-5/16" (3) | 1-5/16" (3) |
| Choke Control..... | Manual | Manual |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE..... | See Chevrolet Instruction Book | |
| Normal Oil Press—lb @ mph.... | 14 @ 39 MPH | 14 @ 2000 rpm |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil.....(qt) | 5-1/2 (4) | 5-1/2 (4) |
| Water.....(qt) | 15 | 15 |
| Transmission.....(pt) | 1-1/2 | 9 qt (refill) |
| Rear Axle.....(pt) | 3-1/2 | 3-1/2 |
| Gasoline.....(gal) | 16 | 16 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 115 | 115 |
| Over-all Lgth Incl Bumpers (in) | 197-13/16 | 197-13/16 |
| Shipping Weight.....(lb) | 3130 | (5) |
| Tire Size—Recm Press.....(lb) | 6.70x15-24-24 | 6.70x15-24-24 |
| Rear Axle Ratio—Type..... | 4.11 Hyp | 3.55 Hyp |
| LOCATION CHASSIS SERIAL NO. Left Front Body Hinge Pillar | | |
| (1) No optional compression ratio. | | |
| (2) Champion's recommendation is J-11; Auto-Lite's is A9. | | |
| (3) From cover surface to bottom of float. | | |
| (4) 5 quarts for refill. | | |
| (5) Styleline Deluxe—Powerglide—3275. | | |
| Fleetline Deluxe—Powerglide—3285. | | |

CROSLEY

| CAR MODEL | CD | Hotshot & Super Sports—VC |
|----------------------------------|------------------------------|------------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | 4-1 | 4-1 |
| Bore & Stroke (in)..... | 2-1/2x2-1/4 | 2-1/2x2-1/4 |
| Displacement (cu in)..... | 44 | 44 |
| AMA Horsepower..... | 10 | 10 |
| Max Horsepower @ rpm..... | 25.5 @ 5200 | 25.5 @ 5200 |
| Max Torque, lb-ft @ rpm..... | 32.5 @ 3000 | 32.5 @ 3000 |
| Max bmep, lb/sq in..... | 111.3 | 111.3 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 8.00 | 8.00 (1) |
| Comp Press, lb/sq in @ rpm..... | 125 to 135 @ 260 | 125 to 135 @ 260 |
| Piston Material..... | AA | AA |
| Bearing Material..... | Steel Backed Babbitt.. | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | Champ J-8 | Champ J-8 |
| Alternate..... | | AL AN7, AC 45 |
| Spark Plug Gap..... | .025" | .025" |
| Breaker Gap..... | .020" | .020" |
| Cam Angle..... | 46° | 46° |
| Firing Order..... | 1-3-4-2 | 1-3-4-2 |
| Timing—Crankshaft Degrees.... | 12° BTC | 12° BTC |
| Adv Deg—Centrif—Vac..... | 34-0 | 34-0 |
| Adv Begins—Ends—Eng rpm ... | 800-3000 | 800-3000 |
| VALVES | | |
| Make & Material..... | Int 3140 | 3140 |
| | Exh 2112N | 2112N |
| Tappet Ctr—Seat Angle..... | Int .004"-.006" C, 45° | .004"-.006" C, 45° |
| | Exh .007"-.009" C, 45° | .007"-.009" C, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Tillotson DY9C | Tillotson DY9C |
| Size, Type..... | 7/8" Sgl DD | 7/8" Sgl DD |
| Float Level..... | 1-27/64" (2) | 1-27/64" (2) |
| Choke Control..... | Manual | Manual |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | See Crosley Instruction Book | |
| Normal Oil Press—lb @ mph.... | 35 to 50 @ 30 | 35 to 50 @ 30 |
| Oil Filter—Make..... | Fram | Fram |
| CAPACITY | | |
| Oil.....(qt) | 2 (3) | 2 (3) |
| Water.....(qt) | 4 | 4 |
| Transmission.....(pt) | 1 | 1 |
| Rear Axle.....(pt) | 1-1/2 | 1-1/2 |
| Gasoline.....(gal) | 6-1/2 | 6-1/2 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 80 | 85 |
| Over-all Lgth Incl Bumpers. (in) | 148 | 137 |
| Shipping Weight.....(lb) | 1370 | 1180 |
| Tire Size—Reem Press.....(lb) | 4.50x12-25-25 | 4.50x12-25-25 |
| Rear Axle Ratio—Type..... | 5.17 SB | 5.17 SB |
| LOCATION CHASSIS SERIAL NO. | | |
| Left Center Firewall Under Hood | | |

(1) 10.00 optional.

(2) From face of body gasket to top of raised seam encircling float—with upper body upside down.

(3) 3 quarts with oil filter.

DESOTO-DODGE

| CAR MODEL | DeSoto S-15 | Dodge D-41 | Dodge D-42 |
|--------------------------------|---------------|----------------------|---------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 6-L | 6-L | 6-L |
| Bore & Stroke (in)..... | 3-7/16x4-1/2 | 3-1/4x4-5/8 | 3-1/4x4-5/8 |
| Displacement (cu in)..... | 250.6 | 230.2 | 230.2 |
| AMA Horsepower..... | 28.36 | 25.35 | 25.35 |
| Max Horsepower @ rpm..... | 116 @ 3600 | 103 @ 3600 | 103 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 208 @ 1600 | 190 @ 1200 | 190 @ 1200 |
| Max bmepp, lb/sq in..... | 125.0 | 127.5 | 127.5 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.00 | 7.00 | 7.00 |
| Comp Press, lb/sq in @ rpm.... | 120-150 @ 150 | 120-150 @ 150 | 120-150 @ 150 |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt | |

IGNITION

| | | | |
|-------------------------------|----------------|----------------|----------------|
| Spark Plug—Factory Eqpt..... | AL AR8 | AL AR8 | AL AR8 |
| Alternate..... | | AC 46-5, Champ | J-8 |
| Spark Plug Gap..... | .035" | .035" | .035" |
| Breaker Gap..... | .020" | .020" | .020" |
| Cam Angle..... | 34-1/2° to 38° | 34-1/2° to 38° | 34-1/2° to 38° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-3-6-2-4 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees.... | 2° BTC | 2° BTC | 2° BTC |
| Adv Deg—Centrif—Vac..... | 22-20 | 22-18 | 22-18 |
| Adv Begins—Ends—Eng rpm.... | 700-2850 | 700-2850 | 700-2850 |

VALVES

| | | | |
|----------------------------|----------------------------|----------------------|--------------|
| Make & Material..... | Int Silicon-Chromium Steel | Various Alloy Steels | |
| | Exh Silicon-Chromium Steel | | |
| Tappet Clr—Seat Angle..... | Int .008" H, 45° | .008" H, 45° | .008" H, 45° |
| | Exh .010" H, 45° | .010" H, 45° | .010" H, 45° |
| Exhaust Seat Inserts..... | Yes | Yes | Yes |

CARBURETOR

| | | | |
|--------------------|----------------------|-----------------|-----------|
| Make, Model..... | Ball & Ball (Car) | Strom BXVD-3-93 | |
| Size, Type..... | 1-1/2" Sgl DD | 1-1/2" Sgl DD | (Special) |
| Float Level..... | 5/64" (1) | 1/8" (1) | 1/8" (1) |
| Choke Control..... | Automatic | Automatic | Automatic |

ENGINE LUBRICATION

| | | | |
|-------------------------------|---------------|---------------------------|---------------|
| Oil—Summer—Winter—SAE.... | See DeSoto | or Dodge Instruction Book | |
| Normal Oil Press—lb @ mph.... | 40 to 50 @ 20 | 40 to 50 @ 20 | 40 to 50 @ 20 |
| Oil Filter—Make..... | Purolator | MoPar | MoPar |

CAPACITY

| | | | |
|-------------------|----------------|-----------|-----------|
| Oil..... | (qt) 5 | 5 | 5 |
| Water..... | (qt) 15 | 14 | 14 |
| Transmission..... | (pt) 2-3/4 (2) | 2-3/4 (3) | 2-3/4 (3) |
| Rear Axle..... | (pt) 3-1/4 | 3-1/4 | 3-1/4 |
| Gasoline..... | (gal) 17 | 17 | 17 |

GENERAL DATA (5 Passenger Sedan)

| | | | |
|---------------------------------|--------------------|---------------|---------------|
| Wheelbase..... | (in) 123-1/2 | 115 | 123-1/2 |
| Over-all Lgth Incl Bumpers (in) | 208-3/8 | 199-7/8 | 206-7/8 |
| Shipping Weight..... | (lb) 3570 | 3215 (4) | 3415 |
| Tire Size—Recm Press..... | (lb) 7.60x15-24-24 | 6.70x15-24-24 | 7.10x15-24-24 |
| Rear Axle Ratio—Type..... | 3.9 (5) | 3.9 (6) | 3.9 |

LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post

- (1) From top of float chamber without gasket to top center of float.
- (2) 3 pints refill when equipped with "Tip-Toe Shift" hydraulic transmission.
- (3) 3 pints when equipped with "Gyromatic" transmission.
- (4) Weight given for two-door sedan; four-door sedan not available in this model.
- (5) 3.73 optional in models equipped with "Tip-Toe Shift" hydraulic transmission.
- (6) 3.73 in 3-passenger coupe and roadster.

| CAR MODEL | Deluxe and Custom Six | Deluxe and Custom Eight |
|--|--|--|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-L | V-8-L |
| Bore & Stroke (in)..... | 3.3x4.4 | 3-3/16x3-3/4 |
| Displacement (cu in)..... | 225.9 | 239.4 |
| AMA Horsepower..... | 26.1 | 32.5 |
| Max Horsepower @ rpm..... | 95 @ 3300 | 100 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 180 @ 1200 | 181 @ 2000 |
| Max bmep, lb/sq in..... | 120 | 113.6 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 6.8 | 6.8 |
| Comp Press, lb/sq in @ rpm.... | 90-110 @ 120 | 110 @ 60 |
| Piston Material..... | AA—Steel Strut | |
| Bearing Material..... | Steel Backed Copper-Lead Alloy | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | Champ H-10 | Champ H-10 |
| Alternate..... | | AC 45L, AL AL7 |
| Spark Plug Gap..... | .029" to .032" | .029" to .032" |
| Breaker Gap..... | .024" to .026" | .014" to .016" |
| Cam Angle..... | 35° to 38° | 26° to 28-1/2° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-4-8-6-3-7-2 |
| Timing—Crankshaft Degrees.... | TDC | 2° BTC |
| Adv Deg—Centrif—Vac..... | (1) | (2) |
| Adv Begins—Ends—Eng rpm.... | | |
| VALVES | | |
| Make & Material..... | Int Exh | Ford or Eaton Sil #1 Ford or Eaton Nichrome Alloy |
| Tappet Clr—Seat Angle..... | Int .013" to .015" C, 45° Exh .017" to .019" C, 45° | .013" to .015" C, 45° .017" to .019" C, 45° |
| Exhaust Seat Inserts..... | Yes | Yes |
| CARBURETOR | | |
| Make, Model..... | Holley (847-FS) | Ford 8BA |
| Size, Type..... | 1-1/4" Sgl DD | 1.0" Dual DD |
| Float Level..... | 1.322" to 1.355" (3) | 1.322" to 1.355" (3) |
| Choke Control..... | Manual | Manual |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE..... | See Ford Instruction Book | |
| Normal Oil Press—lb @ mph.... | 40 to 50 @ 30 to 40 | 40 @ 30 to 40 |
| Oil Filter—Make..... | Fram or Purolator | Fram |
| CAPACITY | | |
| Oil..... | (qt) (4) | (4) |
| Water..... | (qt) 17.3 | 22 |
| Transmission..... | (pt) 3-1/4 (5) | 3-1/4 (5) |
| Rear Axle..... | (pt) 3-1/2 | 3-1/2 |
| Gasoline..... | (gal) 16 | 16 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase..... | (in) 114 | 114 |
| Over-all Lgth Incl Bumpers. (in) | 197.3 | 197.3 |
| Shipping Weight..... | (lb) 3065 | 3093 |
| Tire Size—Recm Press..... | (lb) 6.00x16-28-25 (6) | 6.00x16-28-25 (6) |
| Rear Axle Ratio—Type..... | 3.73 (7) | 3.73 (7) |
| LOCATION CHASSIS SERIAL NO. Left Hand Engine Side of Dash | | |
| (1) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 23°—at cruising torque maximum advance is 26°. | | |
| (2) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 21°—at cruising torque maximum advance is 27°. | | |
| (3) From bowl cover flange to bottom of float in closed position. | | |
| (4) 5 quarts dry including filter—4 quarts refill. | | |
| (5) 4 1/4 pints when equipped with overdrive (4 pints for refill with overdrive). Fordomatic requires 9 quarts. | | |
| (6) 6.70x15-24-21 standard for Custom models, optional for Deluxe models. | | |
| (7) 4.10 with overdrive—3.31 with automatic transmission. | | |

SPARK PLUG HEAT

| | | A Extremely Hot | B Very Hot | C Hot | D Warm |
|---------------------------|--|---------------------|---------------------------|-----------------------|----------------------------|
| AC | 10 mm | 108 M8 | | 106 | |
| | 14 mm | 48 48X | 47 47 Com | 46-5 46X 46 46 Com | 45 45L Com* 45 Com 45L* |
| | 18 mm | 88S Com 88L Com* | 88 87S Com 87 Com | 86 86 Com | 85 Com 85S Com |
| | 7/8" | 78L Com* | 77 Com 77L Com* 78 78S | 76 76 Com 76S | 75 Com |
| CHAM- PION | 10 mm | Y-8 | | Y-6 | |
| | 14 mm | J-14 | J-12 | J-11 H-11* | J-8 H-10* |
| | 18 mm | 9 Com* | C-15 C-7 | 8 Com | 7 15A |
| | 7/8" | 3 Com* 22 | 2 Com L* | C-4 6 | |
| AUTO- LITE | 10 mm | P6 PR6 | | | |
| | 14 mm | A11 AR10 | | A9 AR8 ARL8* | A7 AN7 AL7* |
| | 18 mm | B-11 | BR10 | B9 | BR8 B7 |
| | 7/8" | T11 | | T9 | T7 |
| GLOBE UNION INC. | 10 mm | G0-110 | | G0-165 | |
| | 14 mm | G4-85 | G4-120 | G4-150 | |
| | 18 mm | G8-85 | G8-125 | G8-165 | |
| | 7/8" | G7-110 | | G7-150 | |
| FIRE- STONE | 10 mm | T-60-F | | | |
| | 14 mm | F-120-F | | F-80-F | F-90-LF* |
| | 18 mm | M-120-CF | | M-80-CF | |
| | 7/8" | S-120-CF | | S-80-CF | |
| TORQUE WRENCH CHART | Always use a spark plug socket wrench or a torque wrench. These wrenches are readily obtainable and are the only kind which will avoid distortion of the plug and insure the insulator against damage or breakage. | | | | |

*Long reach.

RANGE COMPARISONS

| E Cool | F Cold | G Very Cold | H Extremely Cold | | | |
|--|-------------------|-----------------|---------------------|----------|---------------------------|----------|
| 104 Com 104 | | 103 Com | | 10 mm | AC | |
| 44 Com 44-5 Com 44 | 43L* 43L Com* | 43 Com 42-5 Com | 42 Com | 14 mm | | |
| 84 83S Com 83 Com | 82 Com 82S Com | | 81S Com | 18 mm | | |
| | 74 74 Com | 73 Com | | 7/8" | | |
| Y-4A | | | | 10 mm | CHAM- PION | |
| J-7 | | J-6 H-9* | H-8* | J-2 | | 14 mm |
| 13 6 Com | 5 Com | R-7 | R-1 | R-11 R-2 | | 18 mm |
| 1 Com | 0 Com | | | | | 7/8" |
| P4 PR4 | | | | 10 mm | AUTO- LITE | |
| A5 AR5 AN5 AL5* ARL5* | | | AR4 A3 | 14 mm | | |
| B7 | B5 | BR4 | | 18 mm | | |
| T7 | | | | 7/8" | | |
| G0-230 | | | | 10 mm | GLOBE UNION INC. | |
| G4-185 | | G4-220 | | 14 mm | | |
| G8-195 | | G8-220 | | 18 mm | | |
| G7-175 | | G7-195 | | 7/8" | | |
| T-40-F | | | | 10 mm | FIRE- STONE | |
| F-40-F | | F-50-LF* | F-30-F | 14 mm | | |
| M-80-CF | M-40-CF | | | 18 mm | | |
| S-40-CF | | | | 7/8" | | |
| Average torque wrench pressures recommended for standard plugs in vehicles. All pressures listed are based on spark plug and engine threads being clean. | | | | | TORQUE WRENCH CHART | |
| Plug Thread | | Cast Iron Heads | Aluminum Heads | | | |
| 10 mm | | 14 lb-ft | 12 lb-ft | | | |
| 14 mm | | 30 lb-ft | 28 lb-ft | | | |
| 18 mm | | 34 lb-ft | 32 lb-ft | | | |
| 7/8" | | 37 lb-ft | 35 lb-ft | | | |

HUDSON

| CAR MODEL | Pacemaker 4-A | Super Six and Commodore Six 5-A and 6-A |
|---|-------------------|---|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-L | 6-L |
| Bore & Stroke (in)..... | 3-9/16x3-7/8 | 3-9/16x4-3/8 |
| Displacement (cu in)..... | 232 | 262 |
| AMA Horsepower..... | 30.4 | 30.4 |
| Max Horsepower @ rpm..... | 112 @ 4000 | 123 @ 4000 |
| Max Torque, lb-ft @ rpm..... | 175 @ 1600 | 200 @ 1600 |
| Max bmep, lb/sq in..... | 113.8 | 115.0 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 6.7 (1) | 6.7 (1) |
| Comp Press, lb/sq in @ rpm..... | 119 @ 125 | 119 @ 125 |
| Piston Material..... | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt |
| IGNITION | | |
| Spark Plug—Factory Eqp..... | Champ H-8 | Champ H-8 |
| Alternate..... | | AC 45L, AL AL5 |
| Spark Plug Gap..... | .032" | .032" |
| Breaker Gap..... | .020" | .020" |
| Cam Angle..... | 30° | 39° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees..... | TDC | TDC |
| Adv Deg—Centrif—Vac..... | 20-10 | 18-8 |
| Adv Begins—Ends—Eng rpm .. | 600-2400 | 1000-4000 |
| VALVES | | |
| Make & Material..... | Int Eaton NE 8645 | Eaton NE 8645 |
| | Exh Eaton 2112 | Eaton 2112 |
| Tappet Clr—Seat Angle..... | Int .008" H, 45° | .008" H, 45° |
| | Exh .010" H, 45° | .010" H, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Car WAI-749-S | Car WGD-776-S |
| Size, Type..... | 1-1/2" Sgl DD | 1-1/4" Dual DD |
| Float Level..... | 1/2" (2) | 3/16" (3) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | | See Hudson Instruction Book |
| Normal Oil Press—lb @ mph.... | 40 @ 30 | 40 @ 30 |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil.....(qt) | 7 (4) | 7 (4) |
| Water.....(qt) | 18-1/2 (5) | 18-1/2 (5) |
| Transmission.....(pt) | 2 (6) | 2 (7) |
| Rear Axle.....(pt) | 3-1/2 | 3-1/2 |
| Gasoline.....(gal) | 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 119 | 124 |
| Over-all Lgth Incl Bumpers.....(in) | 201-1/2 | 208-1/8 |
| Shipping Weight.....(lb) | 3460 | (8) |
| Tire Size—Recm Press.....(lb) | 7.10x15-26-24 | 7.10x15-26-24 |
| Rear Axle Ratio—Type..... | 4.1 (9) | 4.1 (10) |
| LOCATION CHASSIS SERIAL NO. | | |
| | | Right Front Pillar Post |

- (1) 7.2 optional with aluminum head.
- (2) From projection on bowl cover to soldered seam of float—with cover inverted and needle seated.
- (3) From bowl cover to top of float—with cover inverted and needle seated.
- (4) 7-1/2 quarts for dry engine.
- (5) Add 1 quart when equipped with heater.
- (6) 3-1/4 pints when equipped with overdrive.
- (7) 3-1/4 pints with overdrive, Hydra-Matic requires 11.3 quarts for refill.
- (8) Custom 3565—Commodore 3600.
- (9) 4.55 optional.
- (10) 4.55 optional—3.58 standard with Hydra-Matic.

HUDSON

| CAR MODEL | Hornet 7-A | Commodore Eight 8-A |
|--|-------------------|-----------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-L | 8-L |
| Bore & Stroke (in)..... | 3-13/16x4-1/2 | 3x4-1/2 |
| Displacement (cu in)..... | 308 | 254 |
| AMA Horsepower..... | 34.88 | 28.8 |
| Max Horsepower @ rpm..... | 145 @ 3800 | 128 @ 4200 |
| Max Torque, lb-ft @ rpm..... | 257 @ 1800 | 198 @ 1600 |
| Max bmep, lb/sq in..... | 135.8 | 117.6 |
| Head Material..... | Aluminum | Cast Iron |
| Compression Ratio..... | 7.2 (1) | 6.7 (2) |
| Comp Press, lb/sq in @ rpm..... | | 119 @ 125 |
| Piston Material..... | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | Champ H-8 | Champ H-8 |
| Alternate..... | | AC 45L, AL AL5 |
| Spark Plug Gap..... | .032" | .032" |
| Breaker Gap..... | .020" | .017" |
| Cam Angle..... | 39° | 27° |
| Firing Order..... | 1-5-3-6-2-4 | 1-6-2-5-8-3-7-4 |
| Timing—Crankshaft Degrees.... | TDC | TDC |
| Adv Deg—Centrif—Vac..... | 18-8 | 35-8 |
| Adv Begins—Ends—Eng rpm ... | 1000-4000 | 600-3400 |
| VALVES | | |
| Make & Material..... | Int Eaton NE 8645 | Eaton NE 8645 |
| | Exh Eaton 2112 | Eaton 811 XB |
| Tappet Clr—Seat Angle..... | Int .008" H, 45° | .008" H, 45° |
| | Exh .010" H, 45° | .010" H, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Car WGD-776-S | Car WGD-773-S |
| Size, Type..... | 1-1/4" Dual DD | 1-1/4" Dual DD |
| Float Level..... | 3/16" (3) | 3/16" (3) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | | See Hudson Instruction Book |
| Normal Oil Press—lb @ mph.... | 40 @ 30 | |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil.....(qt) | 7 (4) | 7 (5) |
| Water.....(qt) | 18-1/2 (6) | 18-1/2 (6) |
| Transmission.....(pt) | 2 (7) | 2 (7) |
| Rear Axle.....(pt) | 3-1/2 | 3-1/2 |
| Gasoline.....(gal) | 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 124 | 124 |
| Over-all Lgth Incl Bumpers.(in) | 208-1/8 | 208-1/8 |
| Shipping Weight.....(lb) | 3600 | 3620 |
| Tire Size—Recm Press.....(lb) | 7.10x15-26-24 | 7.10x15-26-24 |
| Rear Axle Ratio—Type..... | 4.1 (8) | 4.1 (8) |
| LOCATION CHASSIS SERIAL NO. | | Right Front Pillar Post |
| (1) 6.7 optional with cast iron head. (2) 7.2 optional with aluminum head. (3) From bowl cover to top of float—with cover inverted and needle seated. (4) 7-1/2 quarts for dry engine. (5) 8 quarts for dry engine. (6) Add 1 quart when equipped with heater. (7) 3-1/4 pints with overdrive. Hydra-Matic requires 11.3 quarts for refill. (8) 4.55 and 3.58 optional. 3.58 standard with Hydra-Matic. | | |

HENRY J

| CAR MODEL | 513 | 514 |
|--|------------------------------|----------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | 4-L | 6-L |
| Bore & Stroke (in)..... | 3-1/8x4-3/8 | 3-1/8x3-1/2 |
| Displacement (cu in)..... | 134.2 | 161 |
| AMA Horsepower..... | 15.63 | 23.44 |
| Max Horsepower @ rpm..... | 68 @ 4000 | 80 @ 3800 |
| Max Torque, lb-ft @ rpm..... | 109 @ 1800 | 133 @ 1600 |
| Max bmep, lb/sq in..... | 122.5 | 124.6 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.00 | 7.00 |
| Comp Press, lb/sq in @ Cr Sp.... | 120 to 130 | 130 to 140 |
| Piston Material..... | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AL AN7 | AL AN7 |
| Alternate..... | | AC 45, Champ J-8 |
| Spark Plug Gap..... | .030" | .030" |
| Breaker Gap..... | .020" | .020" |
| Cam Angle..... | 41° ± 1° | 38° ± 1° |
| Firing Order..... | 1-3-4-2 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees.... | 5° BTC | TDC |
| Adv Deg—Centrif—Vac..... | 22 - 20 | 24 - 12 |
| Adv Begins—Ends—Eng rpm ... | 700 - 3000 | 700 - 3000 |
| VALVES | | |
| Make & Material..... | Int Various 3140 | Various 3140 |
| | Exh Uniloy 2112 | |
| Tappet Clr—Seat Angle..... | Int .016" C, 45° | .016" C, 45° |
| | Exh .016" C, 45° | .016" C, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Car 820-S | Car 833-S |
| Size, Type..... | 1-1/4" Sgl DD | 1-1/4" Sgl DD |
| Float Level..... | 9/32" (1) | 9/32" (1) |
| Choke Control..... | Manual | Manual |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | See Henry J Instruction Book | |
| Normal Oil Press—lb @ mph.... | 30-35 @ 30-40 | 30-35 @ 30-40 |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil.....(qt) | 4 | 5 |
| Water.....(qt) | 10-3/4 (2) | 9 (2) |
| Transmission.....(pt) | 1-1/2 (3) | 1-1/2 (3) |
| Rear Axle.....(pt) | 3 | 3 |
| Gasoline.....(gal) | 13 | 13 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 100 | 100 |
| Over-all Lgth Incl Bumpers. (in) | 174-1/2 | 174-1/2 |
| Shipping Weight.....(lb) | 2293 | 2341 |
| Tire Size—Recm Press.....(lb) | 5.90x15-24-24 | 5.90x15-24-24 |
| Rear Axle Ratio—Type..... | 4.55 | 4.55 |
| LOCATION CHASSIS SERIAL NO. | | |
| | Left Front Pillar Post | |
| (1) From top of float to bottom surface of float bowl cover. | | |
| (2) One quart additional if equipped with a heater. | | |
| (3) 3/4 pint additional when equipped with overdrive. | | |

KAISER-FRAZER

| CAR MODEL | Kaiser | Frazer |
|---|---|------------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-L | 6-L |
| Bore & Stroke (in)..... | 3-5/16x4-3/8 | 3-5/16x4-3/8 |
| Displacement (cu in)..... | 226.2 | 226.2 |
| AMA Horsepower..... | 26.3 | 26.3 |
| Max Horsepower @ rpm..... | 115 @ 3650 | 115 @ 3650 |
| Max Torque, lb-ft @ rpm..... | 190 @ 1800 | 190 @ 1800 |
| Max bmep, lb/sq in..... | 126.7 | 126.7 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.3 | 7.3 |
| Comp Press, lb/sq in @ rpm..... | 120 @ 70 | 120 @ 70 |
| Piston Material..... | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AL A5 | AL A5 |
| Alternate..... | | AC 44, Champ J-8 |
| Spark Plug Gap..... | .032" | .032" |
| Breaker Gap..... | .022" | .020" |
| Cam Angle..... | 31° to 37° | 38° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees.... | 4° BTC | 4° BTC |
| Adv Deg—Centrif—Vac..... | 20 - 12 | 20 - 12 |
| Adv Begins—Ends—Eng rpm.... | 650 - 3200 | 650 - 3360 |
| VALVES | | |
| Make & Material..... | Int TP or Eaton or Rich 8640 Exh TP or Eaton or Rich XCR | |
| Tappet Ctr—Seat Angle..... | Int .014" C, 30° Exh .014" C, 45° | .014" C, 30° .014" C, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | Car WGD-781-S | Car WGD-813-S |
| Size, Type..... | 1-1/4" Dual DD | 1-1/4" Dual DD |
| Float Level..... | 1/4" (1) | 1/4" (1) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE | See Kaiser or Frazer Instruction Book | |
| Normal Oil Press—lb @ mph.... | 35 @ 30 | 35 @ 30 |
| Oil Filter—Make..... | Purolator | Purolator or Fram |
| CAPACITY | | |
| Oil.....(qt) | 5 (2) | 5 (2) |
| Water.....(qt) | 13-1/2 (3) | 13 (3) |
| Transmission.....(pt) | 2-1/2 (4) | 2-1/2 (4) |
| Rear Axle.....(pt) | 3 | 3 |
| Gasoline.....(gal) | 17 | 21 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase.....(in) | 118-1/2 | 123-1/2 |
| Over-all Lgth Incl Bumpers. (in) | 208-1/2 | 211-3/8 |
| Shipping Weight.....(lb) | 3126 (5) | 3456 |
| Tire Size—Recm Press.....(lb) | 6.70x15-24-24 | 7.10x15-24-24 |
| Rear Axle Ratio—Type..... | 3.91 (6) | 3.91 (7) |
| LOCATION CHASSIS SERIAL NO. | | |
| | Left | Front Pillar Post |

- (1) From top of float to bottom of float bowl cover — float cover inverted.
- (2) 5 quarts refill — 6 quarts with new filter element.
- (3) Without heater.
- (4) 3-1/2 pints with overdrive. When equipped with Hydra-Matic, 11 quarts required for refill, 12 quarts when unit is dry.
- (5) Kaiser Deluxe 3171.
- (6) 4.55 with overdrive. 3.54 with Hydra-Matic.
- (7) 4.27 with overdrive. 4.55 optional with overdrive. 3.54 with Hydra-Matic.

LINCOLN-MERCURY

| CAR MODEL | Lincoln | Lincoln Cosmopolitan | Mercury |
|--|---|--|--|
| ENGINE | | | |
| No. Cyl-Head Type..... | V-8-L | V-8-L | V-8-L |
| Bore & Stroke (in)..... | 3-1/2x4-3/8 | 3-1/2x4-3/8 | 3-3/16x4 |
| Displacement (cu in)..... | 336.7 | 336.7 | 255.4 |
| AMA Horsepower..... | 39.2 | 39.2 | 32.5 |
| Max Horsepower @ rpm..... | 154 @ 3600 | 154 @ 3600 | 112 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 275 @ 1800 | 275 @ 1800 | 206 @ 2000 |
| Max bmep, lb/sq in..... | 123.2 | 123.2 | 121.6 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.0 | 7.0 | 6.8 |
| Comp Press, lb/sq in @ rpm..... | 110 | 110 | 115 |
| Piston Material..... | | AA—Steel Strut | |
| Bearing Material..... | | Steel Backed Copper-Lead Alloy | |
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | Champ H-10 | Champ H-10 | Champ H-10 |
| Alternate..... | | AC 45L, AL AL7 | |
| Spark Plug Gap..... | .029" to .032" | .029" to .032" | .029" to .032" |
| Breaker Gap..... | .014" to .016" | .014" to .016" | .014" to .016" |
| Cam Angle..... | 26° to 28-1/2° | 26° to 28-1, 2° | 26° to 28-1/2° |
| Firing Order..... | | 1-5-4-8-6-3-7-2 | |
| Timing—Crankshaft: Degrees.... | 4° BTC | 4° BTC | 2° BTC |
| Adv Deg—Centrif—Vac..... | (1) | (1) | (2) |
| Adv Begins—Ends—Eng rpm.... | | | |
| VALVES | | | |
| Make & Material..... | Int Exh | Ford, Eaton or Rich SII ±1 Ford, Eaton or Rich Nichrome Alloy | |
| Tappet Clr—Seat Angle..... | Int Auto Adj, 45° Exh Auto Adj, 45° | Auto Adj, 45° Auto Adj, 45° | .013"-.015"C, 45° .017"-.019"C, 45° |
| Exhaust Seat Inserts..... | Yes | Yes | Yes |
| CARBURETOR | | | |
| Make, Model..... | Holley (587) | Holley (587) | Holley (493.2) |
| Size, Type..... | 1-1 4" Dual DD | 1-1 4" Dual DD | 1-1 4" Dual DD |
| Float Level..... | 1/2" ± 1/32"(3) | 1/2" ± 1/32"(3) | 1/2" ± 1/32"(3) |
| Choke Control..... | Automatic | Automatic | Automatic |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE | See Lincoln or Mercury Instruction Book | | |
| Normal Oil Press—lb @ mph.... | 50 @ 40 | 50 @ 40 | 57 @ 40 |
| Oil Filter—Make..... | Fram | Fram | Fram |
| CAPACITY | | | |
| Oil.....(qt) (4) | (4) | (4) | (5) |
| Water.....(qt) 34-1/2 | 34-1/2 | 34-1/2 | 22-1/4 |
| Transmission.....(pt) 3-1/2 (6) | 3-1/2 (6) | 3-1/2 (6) | 3-1/4 (7) |
| Rear Axle.....(pt) 4 | 4 | 4 | 3 |
| Gasoline.....(gal) 19-1/2 | 19-1/2 | 21-1/2 | 19-1/2 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) 121 | 125 | | 118 |
| Over-all Lgth Incl Bumpers.....(in) 214.8 | 222.5 | | 206.8 |
| Shipping Weight.....(lb) 4055 | 4360 | | 3475 |
| Tire Size—Recm Press.....(lb) 8.00x15-26-24 | 8.20x15-24-24 | | 7.10x15-24-24 |
| Rear Axle Ratio—Type..... | 3.91 (8) | 3.91 (8) | 3.92 (9) |
| LOCATION CHASSIS SERIAL NO. Left Hand Engine Side of Dash | | | |

- (1) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 20-1/2°—at cruising torque maximum is 24°.
- (2) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 16°—at cruising torque maximum advance is 21°.
- (3) From bowl cover flange to fuel level.
- (4) 6-1/2 quarts dry including filter—6 quarts refill.
- (5) 6 quarts dry including filter—5 quarts refill.
- (6) 4 pints with overdrive. Hydramatic requires 12 quarts.
- (7) 4-1/4 pints when equipped with overdrive (4 pints for refill with overdrive). Mercomatic requires 9 quarts.
- (8) 4.27 with overdrive—3.31 with Hydramatic.
- (9) 4.27 with overdrive—3.31 with Mercomatic.

| CAR MODEL | Rambler 51-10 | Statesman 51-40 | Ambassador 51-60 |
|---|---------------------|---------------------------|---------------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 6-L | 6-L | 6-I |
| Bore & Stroke (in)..... | 3-1/8x3-3/4 | 3-1/8x4 | 3-3/8x4-3/8 |
| Displacement (cu in)..... | 172.6 | 184 | 234.8 |
| AMA Horsepower..... | 23.44 | 23.44 | 27.34 |
| Max Horsepower @ rpm..... | 82 @ 3800 | 85 @ 3800 | 115 @ 3400 |
| Max Torque, lb-ft @ rpm..... | 138 @ 1600 | 140 @ 1600 | 210 @ 1600 |
| Max bmep, lb/sq in..... | 120.6 | 114.8 | 134.8 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.25 (1) | 7.00 (2) | 7.30 (3) |
| Comp Press, lb/sq in @ Cr Sp.... | 120 | 120 | 130 |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt | |
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | AL A5 | AL A5 | AL A5 or AC 44 |
| Alternate | AC 44, Champ J-8 | Champ J-8 | Champ J-8 |
| Spark Plug Gap..... | .030" | .030" | .030" |
| Breaker Gap..... | .018" to .024" | .018" to .024" | .018" to .024" |
| Cam Angle..... | 35° | 35° | 35° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-3-6-2-4 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees.... | TDC | TDC | TDC |
| Adv Deg—Centrif—Vac..... | 22-15 | 22-15 | 28-12 |
| Adv Begins—Ends—Eng rpm.... | 600-2800 | 600-2800 | 600-2700 |
| VALVES | | | |
| Make & Material..... | Int Various 3140 | Various 3140 | Various 3140 |
| | Exh AI or Rich 2112 | AI or Eaton 2112 | |
| Tappet Ctr—Seat Angle..... | Int .016" C, 45° | .015" H, 45° | .015" H, 30° |
| | Exh .018" C, 45° | .015" H, 45° | .018" H, 45° |
| Exhaust Seat Inserts..... | None | None | None |
| CARBURETOR | | | |
| Make, Model..... | Car YF-757-S | Car YF-824-S | Car WAI-746 |
| Size, Type..... | 1-1/4" Sgl DD | 1-1/4" Sgl DD | 1-1/4" Sgl DD |
| Float Level..... | 1/2" (4) | 1/2" (4) | 1/3" (5) |
| Choke Control..... | Automatic | Automatic | Automatic |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE | | See Nash Instruction Book | |
| Normal Oil Press—lb @ mph.... | 50 @ 30 | 50 @ 30 | 50 @ 30 |
| Oil Filter—Make..... | None | None | None |
| CAPACITY | | | |
| Oil.....(qt) | 5 | 5 | 6 |
| Water.....(qt) | 12 (6) | 15 (6) | 18 (6) |
| Transmission.....(pt) | 1-1/2 (7) | 2-1/4 (8) | 2-1/4 (8) |
| Rear Axle.....(pt) | 3 | 3 | 4 |
| Gasoline.....(gal) | 20 | 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 100 | 112 | 121 |
| Over-all Lgth Incl Bumpers.(in) | 176 | 201 | 211 |
| Shipping Weight.....(lb) | 191 | 2970 | 3410 |
| Tire Size—Reem Press.....(lb) | 5.90x15-24-24 | 6.40x-15-24-24 | 7.10x15-24-24 |
| Rear Axle Ratio—Type..... | 3.77 (10) | 4.375 (11) | 4.1 (12) |
| LOCATION CHASSIS SERIAL NO. Under Hood Right Hand Side | | | |
| (1) 7.6 optional. (2) 7.35 optional. | | | |
| (3) 7.50 optional. "Dual Jet Fire" Model equipped with aluminum head of 8.2 compression ratio. | | | |
| (4) From top of float (at free end) to float chamber cover—with float chamber cover inverted. | | | |
| (5) From top of projection on bowl cover to top of soldered seam at front end of float—with bowl cover inverted. | | | |
| (6) With heater. (7) 1 1/4 pints additional with overdrive. | | | |
| (8) 1 1/4 pints additional with overdrive. When equipped with Hydra-Matic, approximately 11 quarts for refill, 12 quarts when unit is completely dry. | | | |
| (9) Convertible 2430—Station Wagon 2515. | | | |
| (10) 4.375 with overdrive—4.1 optional. | | | |
| (11) 4.875 with overdrive 3.778 with Hydra-Matic. | | | |
| (12) 4.444 with overdrive—3.545 with Hydra-Matic. | | | |

OLDSMOBILE

| CAR MODEL | 88 | Super 88 | 98 |
|--|---------------------------------|--------------------------|----------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | V-8-I | V-8-I | V-8-I |
| Bore & Stroke (in)..... | 3-3/4x3-7/16 | 3-3/4x3-7/16 | 3-3/4x3-7/16 |
| Displacement (cu in)..... | 303.73 | 303.73 | 303.73 |
| AMA Horsepower..... | 45.0 | 45.0 | 45.0 |
| Max Horsepower @ rpm..... | 135 @ 3000 | 135 @ 3600 | 135 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 263 @ 1800 | 263 @ 1800 | 263 @ 1800 |
| Max bmep, lb/sq in..... | 130.7 | 130.7 | 130.7 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.50 | 7.50 | 7.50 |
| Comp Press, lb/sq in @ rpm..... | 180-190 @ 1000 | 180-190 @ 1000 | 180-190 @ 1000 |
| Piston Material..... | AA—Steel Strut | | |
| Bearing Material..... | Steel Backed Durex | | |
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | AC 46-5 | AC 46-5 | AC 46-5 |
| Alternate..... | | Champ J-11, AL AN7 | |
| Spark Plug Gap..... | .030" | .030" | .030" |
| Breaker Gap..... | .016" | .016" | .016" |
| Cam Angle..... | 26° to 33° | 26° to 33° | 26° to 33° |
| Firing Order..... | | 1-8-7-3-6-5-4-2 | |
| Timing—Crankshaft Degrees..... | 2-1/2° BTC | 2-1/2° BTC | 2-1/2° BTC |
| Adv Deg—Centrif—Vac..... | 30-20 | 30-20 | 30-20 |
| Adv Begins—Ends—Eng rpm ... | 600-3700 | 600-3700 | 600-3700 |
| VALVES | | | |
| Make & Material..... | Int S11 XCR | Various 3140 and NE 8645 | |
| | Exh | S11 XCR | S11 XCR |
| Tappet Clr—Seat Angle..... | Int | Automatic Adjusters, 45° | |
| | Exh | Automatic Adjusters, 45° | |
| Exhaust Seat Inserts..... | None | None | None |
| CARBURETOR | | | |
| Make, Model..... | Rochester BB or Carter WGD | | |
| Size, Type..... | | 1-7/16" Dual DD | |
| Float Level..... | (1) | (1) | (1) |
| Choke Control..... | Automatic | Automatic | Automatic |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE | See Oldsmobile Instruction Book | | |
| Normal Oil Press—lb @ mph.... | 40 @ 30 | 40 @ 30 | 40 @ 30 |
| Oil Filter—Make..... | (2) | (2) | (2) |
| CAPACITY | | | |
| Oil.....(qt) | 5 | 5 | 5 |
| Water.....(qt) | 21-1/2 | 21-1/2 | 21-1/2 |
| Transmission.....(pt) | 2 (3) | 2 (3) | 2 (3) |
| Rear Axle.....(pt) | 3-3/4 | 3-3/4 | 3-3/4 |
| Gasoline.....(gal) | 18 | 18 | 18 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 119-1/2 | 120 | 122 |
| Over-all Lgth Incl Bumpers.....(in) | 202 | 204 | 208 |
| Shipping Weight.....(lb) | 3522 | 3605 | 3780 |
| Tire Size—Recm Press.....(lb) | 7.60x15-24-24 | 7.60x15-24-24 | 7.60x15-24-24 |
| Rear Axle Ratio—Type..... | 3.64 (4) | 3.64 (4) | 3.9 (5) |
| LOCATION CHASSIS SERIAL NO. | | | |
| Left Front Door Pillar Post | | | |
| (1) Rochester BB—1-1/8" from cover gasket to bottom of float—with float cover inverted and needle seated. Carter WGD—1/4" from top of cover to top of float with float cover inverted and needle seated. | | | |
| (2) AC optional at extra cost. | | | |
| (3) Hydra-Matic requires 10½ quarts for refill. | | | |
| (4) 3.9 optional. 3.42 standard with Hydra-Matic—3.64 optional with Hydra-Matic on Super 88. | | | |
| (5) With Hydra-Matic—3.64 standard, 3.9 optional. | | | |

PACKARD

| CAR MODEL | 200 Synchromesh & Ultramatic | 300 Synchromesh & Ultramatic | 400 Ultramatic |
|---|--------------------------------------|------------------------------------|--------------------------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 8-L | 8-L | 8-L |
| Bore & Stroke (in)..... | 3-1/2x3-3/4 | 3-1/2x4-1/4 | 3-1/2x4-1/4 |
| Displacement (cu in)..... | 288 | 327 | 327 |
| AMA Horsepower..... | 39.2 | 39.2 | 39.2 |
| Max Horsepower @ rpm..... | 135 @ 3600 (1) | 150 @ 3600 (2) | 155 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 230 @ 2000 (1) | 270 (2) | 275 |
| Max bmep, lb/sq in..... | 120.4 (1) | 124.5 (2) | 126.8 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.00 (1) | 7.00 (2) | 7.80 |
| Comp Press, lb/sq in @ rpm..... | | | |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Durex | |
| IGNITION | | | |
| Spark Plug—Factory Eqp..... | AL A5 or AC 46-5 or Champ J-8 | | |
| Alternate..... | | | |
| Spark Plug Gap..... | .026"- .030" | .026"- .030" | .026"- .030" |
| Breaker Gap..... | .0125"- .0175" | .0125"- .0175" | .0125"- .0175" |
| Cam Angle..... | 21° to 30° | 21° to 30° | 21° to 30° |
| Firing Order..... | | 1 - 6 - 2 - 5 - 8 - 3 | 7 - 4 |
| Timing—Crankshaft Degrees.... | 6° BTC | 6° BTC | 6° BTC |
| Adv Deg—Centrif—Vac..... | 16° - 21° | 16° - 21° | 16° - 21° |
| Adv Begins—Ends—Eng rpm.... | 600 - 3200 | 600 - 3200 | 600 - 3200 |
| VALVES | | | |
| Make & Material..... | Int Exh 2112 | Chrome Nickel Steel 2112 | 2112 |
| Tappet Ctr—Seat Angle..... | Int .007" H, 30° Exh .010" H, 45° | Auto Adj, 30° Auto Adj, 45° | Auto Adj, 30° Auto Adj, 45° |
| Exhaust Seat Inserts..... | None | None | None |
| CARBURETOR | | | |
| Make, Model..... | Car WGD-784-S | Car WGD-767-S | |
| Size, Type..... | 1-1/4" Dup DD | 1-1/4" Dup DD | 1-1/4" Dup DD |
| Float Level..... | 13/64" (3) | 13/64" (3) | 13/64" (3) |
| Choke Control..... | Automatic | Automatic | Automatic |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE..... | See Packard Instruction Book | | |
| Normal Oil Press—lb..... | 40 | 40 | 40 |
| Oil Filter—Make..... | None | Purolator | Purolator |
| CAPACITY | | | |
| Oil.....(qt) | 7 | 7 | 7 |
| Water.....(qt) | 20 (4) | 20 (4) | 20 (4) |
| Transmission.....(pt) | 2 (5) | 2 (5) | 24 |
| Rear Axle.....(pt) | 4 | 4 | 4 |
| Gasoline.....(gal) | 20 | 20 | 20 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 122 | 127 | 127 |
| Over-all Lgth Incl Bumpers. (in) | 209-3/8 | 217-3/4 | 217-3/4 |
| Shipping Weight.....(lb) | 3660 (6) | 3930 (6) | 4115 |
| Tire Size—Recm Press.....(lb) | 7.60x15-24-24 | 8.00x15-24-24 | 8.00x15-24-24 |
| Rear Axle Ratio—Type..... | 3.9 (7) | 3.9 (7) | 3.54 |

LOCATION CHASSIS SERIAL NO.

Left Front Door Pillar Post

- (1) With Ultramatic Drive, cylinder head of 7.5 compression ratio is used. Maximum HP is increased to 138; maximum torque to 235; maximum bmep to 123.0.
- (2) With Ultramatic Drive, cylinder head of 7.8 compression ratio is used. Maximum HP is increased to 155; maximum torque to 275; maximum bmep to 126.8.
- (3) Below top of bowl.
- (4) One pint additional with heater.
- (5) 1-1/4 pints additional for overdrive. Ultramatic Drive requires 24 pints.
- (6) 105 pounds additional with Ultramatic Drive.
- (7) 4.1 with overdrive, 3.54 with Ultramatic Drive.

PLYMOUTH

| CAR MODEL | Concord P-22 | Cambridge P-23 | Cranbrook P-23 |
|---|--------------------------------------|--|------------------------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 6-L | 6-L | 6-L |
| Bore & Stroke (in)..... | 3-1/4x4-3/8 | 3-1/4x4-3/8 | 3-1/4x4-3/8 |
| Displacement (cu in)..... | 217.8 | 217.8 | 217.8 |
| AMA Horsepower..... | 25.35 | 25.35 | 25.35 |
| Max Horsepower @ rpm..... | 97 @ 3600 | 97 @ 3600 | 97 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 175 @ 1200 | 175 @ 1200 | 175 @ 1200 |
| Max bmep, lb/sq in..... | 121.2 | 121.2 | 121.2 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.00 | 7.00 | 7.00 |
| Comp Press, lb/sq in @ rpm..... | 120-150 @ 150 | 120-150 @ 150 | 120-150 @ 150 |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt | |
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | AL AR8 | AL AR8 | AL AR8 |
| Alternate..... | | AC 46-5, Champ J-8 | |
| Spark Plug Gap..... | .035" | .035" | .035" |
| Breaker Gap..... | .020" | .020" | .020" |
| Cam Angle..... | 34-1/2° to 38° | 34-1/2° to 38° | 34-1/2° to 38° |
| Firing Order..... | 1-5-3-6-2-4 | 1-5-3-6-2-4 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees..... | 2° BTC | 2° BTC | 2° BTC |
| Adv Deg—Centrif—Vac..... | 22-18 | 22-18 | 22-18 |
| Adv Begins—Ends—Eng rpm..... | 700-2850 | 700-2850 | 700-2850 |
| VALVES | | | |
| Make & Material..... | Int Exh | Various Alloy Steels Silicon-Chromium Steel | |
| Tappet Clr—Seat Angle..... | Int .008" H, 45° Exh .010" H, 45° | .008" H, 45° .010" H, 45° | .008" H, 45° .010" H, 45° |
| Exhaust Seat Inserts..... | Yes | Yes | Yes |
| CARBURETOR | | | |
| Make, Model..... | | Ball & Ball (Car) | |
| Size, Type..... | | 1-1/2" Sgl DD (Special) | |
| Float Level..... | 5/64" (1) | 5/64" (1) | 5/64" (1) |
| Choke Control..... | Automatic | Automatic | Automatic |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE..... | | See Plymouth Instruction Book | |
| Normal Oil Press—lb @ mph..... | 40-50 @ 25 | 40-50 @ 25 | 40-50 @ 25 |
| Oil Filter—Make..... | None | Purolator | Purolator |
| CAPACITY | | | |
| Oil.....(qt) | 5 | 5 | 5 |
| Water.....(qt) | 13 | 13 | 13 |
| Transmission.....(pt) | 2-3/4 | 2-3/4 | 2-3/4 |
| Rear Axle.....(pt) | 3-1/4 | 3-1/4 | 3-1/4 |
| Gasoline.....(gal) | 17 | 17 | 17 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 111 | 118-1/2 | 118-1/2 |
| Over-all Lgth Incl Bumpers.....(in) | 188-1/8 | 193-7/8 | 193-7/8 |
| Shipping Weight.....(lb) | 2975 (2) | 3110 | 3115 |
| Tire Size—Recm Press.....(lb) | 6.40x15-24-24 | 6.70x15-24-24 | 6.70x15-24-24 |
| Rear Axle Ratio—Type..... | 3.73 | 3.9 | 3.9 |
| LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post | | | |

(1) From top of float chamber without gasket to top of float.

(2) Two-door sedan.

PONTIAC

| CAR MODEL | 25-Streamliner & Chieftain 6 | 27-Streamliner & Chieftain 8 |
|---|---------------------------------|---------------------------------|
| ENGINE | | |
| No. Cyl-Head Type..... | 6-L | 8-L |
| Bore & Stroke (in)..... | 3-9/16x4 | 3-3/8x3-3/4 |
| Displacement (cu in)..... | 239.2 | 268.4 |
| AMA Horsepower..... | 30.4 | 36.4 |
| Max Horsepower @ rpm..... | 96 @ 3400 | 116 @ 3600 |
| Max Torque, lb-ft @ rpm..... | 191 @ 1200 | 220 @ 2000 |
| Max bmep, lb/sq in..... | 120.4 | 123.6 |
| Head Material..... | Cast Iron | Cast Iron |
| Compression Ratio..... | 6.5 (1) | 6.5 (1) |
| Comp Press, lb/sq in @ rpm..... | 118-135 @ 200 | 118-135 @ 200 |
| Piston Material..... | CNA | CNA |
| Bearing Material..... | Steel Backed Babbitt | |
| IGNITION | | |
| Spark Plug—Factory Eqpt..... | AC 45 | AC 45 |
| Alternate..... | | Champ J-8, AL AN7 |
| Spark Plug Gap..... | .025" | .025" |
| Breaker Gap..... | .022" | .016" |
| Cam Angle..... | 35° | 26° |
| Firing Order..... | 1-5-3-6-2-4 | 1-6-2-5-8-3-7-4 |
| Timing—Crankshaft Degrees.... | 6° BTC | 6° BTC |
| Adv Deg—Centrif—Vac..... | 28-17 | 27-22 |
| Adv Begins—Ends—Eng rpm.... | 600-4100 | 500-4200 |
| VALVES | | |
| Make & Material..... | Int Rich V Steel | Rich V Steel |
| | Exh Rich 2112 | or TP Sll XB |
| Tappet Clr—Seat Angle..... | Int .011"—.013" H, 30° | .011"—.013" H, 30° |
| | Exh .011"—.013" H, 45° | .011"—.013" H, 45° |
| Exhaust Seat Inserts..... | None | None |
| CARBURETOR | | |
| Make, Model..... | RP BC | Car WCD-719-SA (2) |
| Size, Type..... | 1-5/16" Sgl DD | 1-3/16" Dual DD |
| Float Level..... | 1-17/64" (3) | 3/16" (4) |
| Choke Control..... | Automatic | Automatic |
| ENGINE LUBRICATION | | |
| Oil—Summer—Winter—SAE..... | See Pontiac Instruction Book | |
| Normal Oil Press—lb @ mph.... | 35-40 @ 40 | 35-40 @ 40 |
| Oil Filter—Make..... | None | None |
| CAPACITY | | |
| Oil..... (qt) | 5 | 5 |
| Water..... (qt) | 18 | 19-1/2 |
| Transmission..... (pt) | 1-3/4 (5) | 1-3/4 (5) |
| Rear Axle..... (pt) | 3-1/4 | 3-1/4 |
| Gasoline..... (gal) | 17-1/2 | 17-1/2 |
| GENERAL DATA (5 Passenger Sedan) | | |
| Wheelbase..... (in) | 120 | 120 |
| Over-all Lgth Incl Bumpers. (in) | 202.2 | 202.2 |
| Shipping Weight..... (lb) | 3273 (6) | 3363 (6) |
| Tire Size—Recm Press..... (lb) | 7.10x15-24-24 (7) | 7.10x15-24-24 (7) |
| Rear Axle Ratio—Type..... | 4.1 (8) | 3.9 (9) |
| LOCATION CHASSIS SERIAL NO. Left Front Pillar Post | | |

- (1) 7.50 optional.
- (2) WCD-720-SA used with Hydra-Matic drive.
- (3) Bowl cover gasket to bottom of float using Kent-Moore Gauge J-4554.
- (4) Bowl cover to seam of float by use of Carter Gauge T-109-162.
- (5) Hydra-Matic drive requires approximately 11 quarts.
- (6) 115 lbs. additional when equipped with Hydra-Matic drive.
- (7) 7.60x15-22-20 optional.
- (8) 3.9 and 4.3 optional—3.63 with Hydra-Matic drive.
- (9) 3.63 and 4.1 optional—3.63 with Hydra-Matic drive.

STUDEBAKER

| CAR MODEL | Champion 100 | Commander H | Land Cruiser H |
|---------------------------------|-----------------|----------------------|-------------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 6-L | V-8-I | V-8-I |
| Bore & Stroke (in)..... | 3x4 | 3-3/8x3-1/4 | 3-3/8x3-1/4 |
| Displacement (cu in)..... | 169.6 | 232.6 | 232.6 |
| AMA Horsepower..... | 21.6 | 36.4 | 36.4 |
| Max Horsepower @ rpm..... | 85 @ 4000 | 120 @ 4000 | 120 @ 4000 |
| Max Torque, lb-ft @ rpm..... | 133 @ 2400 | 190 @ 2000 | 190 @ 2000 |
| Max bmep, lb/sq in..... | 122.8 | 127.5 | 127.5 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 7.0 (1) | 7.0 (1) | 7.0 (1) |
| Comp Press, lb/sq in @ rpm..... | 120 @ 150 | 120-140 @ 150 | 120-140 @ 150 |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt | |

| | | | |
|--------------------------------|---------------|-----------------|---------------|
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | Champ J-7 | Champ H-8 | Champ H-8 |
| Alternate..... | AC 44, AL A5 | AC 45L, AL A15 | |
| Spark Plug Gap..... | .0225"-.0275" | .0325"-.0375" | .0325"-.0375" |
| Breaker Gap..... | .020" | .013"-.018" | .013"-.018" |
| Cam Angle..... | 38°-40° | 22°-29° | 22°-29° |
| Firing Order..... | 1-5-3-6-2-4 | 1-8-4-3-6-5-7-2 | |
| Timing—Crankshaft Degrees..... | 2° BTC | 8° BTC | 8° BTC |
| Adv Deg—Centrif—Vac..... | 14-18 | 28-16 | 28-16 |
| Adv Begins—Ends—Eng rpm..... | 800-2800 | 600-2600 | 600-2600 |

| | | | |
|----------------------------|---------------------------------------|---------------------|------|
| VALVES | | | |
| Make & Material..... | Int Rich or Eaton Chrome Nickel Steel | | |
| | Exh Rich or Eaton 2112 | Rich or Eaton 2112N | |
| Tappet Clr—Seat Angle..... | Int .016" C, 45° | .012"-.014" H, 45° | |
| | Exh .016" C, 45° | .012"-.014" H, 45° | |
| Exhaust Seat Inserts..... | None | None | None |

| | | | |
|--------------------|---------------|-------------------|-----------|
| CARBURETOR | | | |
| Make, Model..... | Car WE-715-S | Strom AAUVB-26 | |
| Size, Type..... | 1-1/4" Sgl DD | 1-1/8" Dual DD | |
| Float Level..... | 3/8" (2) | 1/8" to 5/32" (3) | |
| Choke Control..... | Automatic | Automatic | Automatic |

| | | | |
|--------------------------------|---------------------------------|------------|------------|
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE..... | See Studebaker Instruction Book | | |
| Normal Oil Press—lb @ mph..... | 20-40 @ 40 | 40 @ 25-30 | 40 @ 25-30 |
| Oil Filter—Make..... | Fram (4) | Fram (4) | Fram (4) |

| | | | |
|-----------------------|-----------------------|---------------------|--------|
| CAPACITY | | | |
| Oil.....(qt) | 5 | 6 | 6 |
| Water.....(qt) | 10 | 17-1/4 | 17-1/4 |
| Transmission.....(pt) | 1.5 (with OD 2.2) (5) | 2.4 (with OD 3) (5) | |
| Rear Axle.....(pt) | 2-1/2 | 3 | 3 |
| Gasoline.....(gal) | 18 | 18 | 18 |

| | | | |
|---|---------------|---------------|---------------|
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 115 | 115 | 119 |
| Over-all Lgth Incl Bumpers.....(in) | 197-1/2 | 197-1/2 | 201-1/2 |
| Shipping Weight.....(lb) | (6) | (7) | 3165 |
| Tire Size—Recm Press.....(lb) | 6.40x15-26-24 | 7.10x15-26-22 | 7.10x15-26-22 |
| Rear Axle Ratio—Type..... | 4.10 (8) | 4.09 (9) | 4.09 (9) |

| | |
|------------------------------------|----------------------------------|
| LOCATION CHASSIS SERIAL NO. | Left Front Door Lock Pillar Post |
|------------------------------------|----------------------------------|

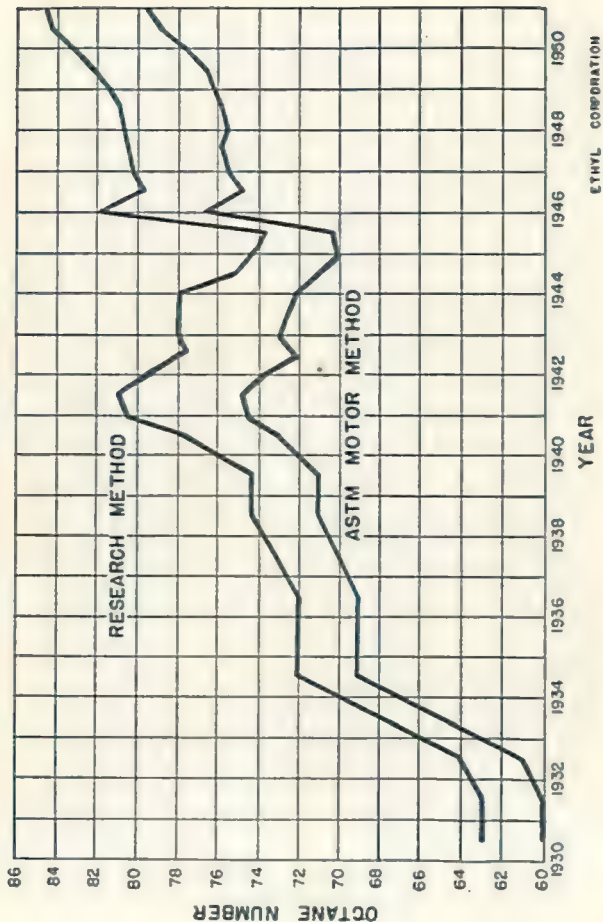
- (1) 7.5 optional.
- (2) Between boss on bowl cover and far edge of float seam.
- (3) See Studebaker Instruction book.
- (4) Standard on Land Cruiser. Optional at extra cost on Champion and Commander.
- (5) Models with overdrive—individual drain plugs and filler plugs. 9-1/2 quarts with automatic transmission.
- (6) DeLuxe 2715—Regal 2720.
- (7) Regal 3065—State 3070.
- (8) 4.56 with overdrive; 3.54 with automatic transmission.
- (9) 4.55 with overdrive; 3.54 with automatic transmission.

WILLYS

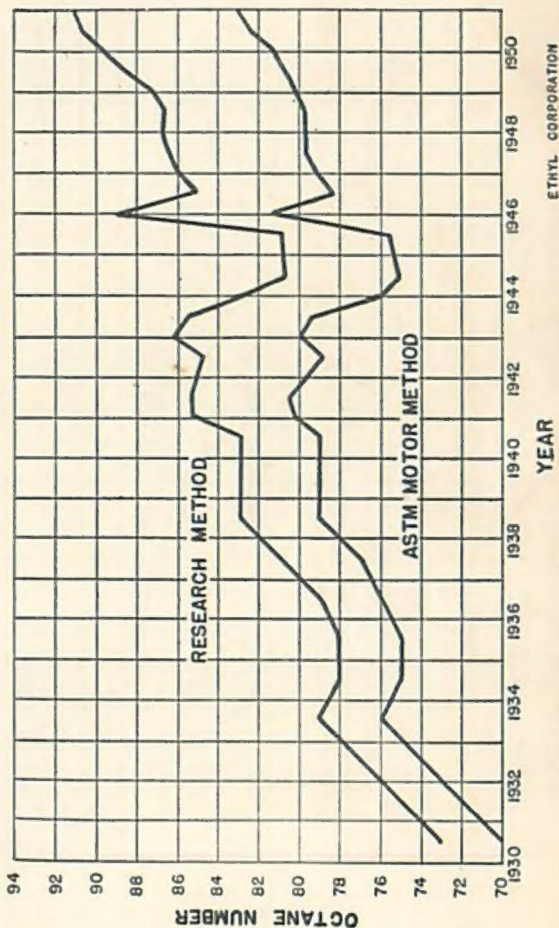
| CAR MODEL | CJ-3A Jeep | 4-73 | 6-73 |
|----------------------------------|--------------------------------------|----------------------------|---------------|
| ENGINE | | | |
| No. Cyl-Head Type..... | 4-L | 4-P | 6-L |
| Bore & Stroke (in)..... | 3-1/8x4-3/8 | 3-1/8x4-3/8 | 3-1/8x3-1/2 |
| Displacement (cu in)..... | 134.2 | 134.2 | 161.0 |
| AMA Horsepower..... | 15.63 | 15.63 | 23.45 |
| Max Horsepower @ rpm..... | 60 @ 4000 | 72 @ 4000 | 75 @ 4000 |
| Max Torque, lb-ft @ rpm..... | 105 @ 2000 | 114 @ 2000 | 124 @ 2000 |
| Max bmep, lb/sq in..... | 118.1 | 128.0 | 116.1 |
| Head Material..... | Cast Iron | Cast Iron | Cast Iron |
| Compression Ratio..... | 6.48 (1) | 7.40 (2) | 6.90 |
| Comp Press, lb/sq in @ rpm..... | 115 @ 185 | 125 @ 185 | 125 @ 185 |
| Piston Material..... | AA | AA | AA |
| Bearing Material..... | | Steel Backed Babbitt Lined | |
| IGNITION | | | |
| Spark Plug—Factory Eqpt..... | | Champ J-7 | |
| Alternate..... | | AC 44, AL AN7 | |
| Spark Plug Gap..... | .030" | .030" | .030" |
| Breaker Gap..... | .020 | .020 | .020 |
| Cam Angle..... | 41° | 51° | 39° |
| Firing Order..... | 1-3-4-2 | 1-3-4-2 | 1-5-3-6-2-4 |
| Timing—Crankshaft Degrees.... | 5°BTC | TDC | TDC |
| Adv Deg—Centrif—Vac..... | 22-0 | 22-10 | 24-12 |
| Adv Begins—Ends—Eng rpm... | 500-3000 | 600-4000 | 700-3000 |
| VALVES | | | |
| Make & Material..... | Int Various 3140 | Various 3140 | Various 3140 |
| | Exh Various 2112 | Various Unilloy | 2112 |
| Tappet Ctr—Seat Angle..... | Int .016" C, 45° | .018" C, 45° | .016" C, 45° |
| | Exh .016" C, 45° | .016" C, 45° | .016" C, 45° |
| Exhaust Seat Inserts..... | None | None | None |
| CARBURETOR | | | |
| Make, Model..... | Car 636-SA | Car YF | Zenith 31A11 |
| Size, Type..... | 1" Sgl DD | 1 1/4" Sgl DD | 1 1/4" Sgl DD |
| Float Level..... | 3/8" (3) | 5/16" (4) | 3/16" (4) |
| Choke Control..... | Manual | Manual | Manual |
| ENGINE LUBRICATION | | | |
| Oil—Summer—Winter—SAE | See Willys-Overland Instruction Book | | |
| Normal Oil Press—lb @ mph.... | 35 @ 30 | 35 @ 30 | 35 @ 30 |
| Oil Filter—Make..... | Fram or Purolator | (5) | None |
| CAPACITY | | | |
| Oil.....(qt) | 4 | 4 | 5 |
| Water.....(qt) | 11 | 11 | 9 |
| Transmission.....(pt) | 3 (6) | 1-1/2 (7) | 1-1/2 (7) |
| Rear Axle.....(pt) | 2-3/4 (8) | 2 | 2 |
| Gasoline.....(gal) | 10.5 | 15 | 15 |
| GENERAL DATA (5 Passenger Sedan) | | | |
| Wheelbase.....(in) | 80 | 104 | 104 |
| Over-all Lgth Incl Bumpers. (in) | 122-3/4 | 176-1/4 | 174-13/16 |
| Shipping Weight.....(lb) | 2108 | 2875 | 2845 |
| Tire Size—Recm Press.....(lb) | 6.00x16-28-28 | 6.70x15-24-24 | 6.70x15-24-24 |
| Rear Axle Ratio—Type..... | 5.38 (9) | 5.38 (10) | 5.38 (10) |
| LOCATION CHASSIS SERIAL NO. | | | |
| | Plate on Dash | Plate on Left Floor Riser | |

- (1) 7.00 optional.
- (2) 7.90 optional.
- (3) From top of float to bottom of float bowl cover.
- (4) From seam on top of float to bottom of float bowl cover.
- (5) Fram or Purolator optional.
- (6) Transfer case—4 pints standard on Jeep.
- (7) 1 1/2 pints additional for overdrive.
- (8) Front axle 2 1/2 pints.
- (9) Both front and rear axles.
- (10) 5.38 standard with overdrive—4.88 standard without overdrive.

TREND IN ANTIKNOCK QUALITY OF REGULAR GASOLINES SOLD IN THE UNITED STATES



TREND IN ANTIKNOCK QUALITY OF PREMIUM GASOLINES SOLD IN THE UNITED STATES



TRENDS OF AMERICAN PASSENGER CAR ENGINE DESIGN SINCE 1925

AVERAGES OF VALUES LISTED IN TRADE PUBLICATIONS

